

WE CLAIM:

1 1. A method of making prefilled syringes, the method
2 comprising the steps of:

3 displacing a succession of syringes along a conveyor
4 path from a supply station successively through a marking
5 station, a filling station, and to a downstream packing station;

6 filling each of the syringes with a predetermined dose
7 of a medicament in the filling station;

8 permanently marking the syringes in the marking station
9 with machine-readable data identifying the medicament to be put
10 in the empty syringe at the filling station;

11 scanning the syringes downstream of the marking station
12 and removing from the conveyor path any syringe whose data is not
13 readable; and

14 scanning the syringes downstream of the marking station
15 and removing from the conveyor path any syringe whose data does
16 not correspond to the medicament filled into the syringe at the
17 filling station.

1 2. The method of making prefilled syringes defined in
2 claim 1 wherein the machine-readable data marked on the syringes
3 is redundant.

1 3. The method of making prefilled syringes defined in
2 claim 1 wherein the syringes are marked before any production
3 steps.

1 4. The method of making prefilled syringes defined in
2 claim 1 wherein the syringes are scanned at several locations
3 along the path.

1 5. The method of making prefilled syringes defined in
2 claim 1 wherein the markings are not readable under normal light.

1 6. The method of making prefilled syringes defined in
2 claim 1 wherein the markings are printed on the syringes.

1 7. The method of making prefilled syringes defined in
2 claim 1 wherein the markings are laser-inscribed on the syringes.

1 8. The method of making prefilled syring s defined in
2 claim 1, further comprising the step of
3 rotating the syringes about their axes during scanning
4 of the markings.

1 9. The method of making prefilled syringes defined in
2 claim 8 wherein the scanning is effected from two locations
3 offset angularly with respect to the axis of the syringe being
4 scanned. \

1 10. The method of making prefilled syringes defined in
2 claim 8 wherein the syringes are rotated at an angular speed
3 coordinated with a frame rate of a scanning device effecting the
4 scanning.

1 11. The method of making prefilled syringes defined in
2 claim 1 wherein the markings comply with Data Matrix ECC 200.

1 12. An apparatus for making prefilled syringes, the
2 apparatus comprising:

3 means for displacing a succession of syringes along a
4 conveyor path from a supply station successively through a
5 marking station, a filling station, and to a downstream packing
6 station;

7 means at the filling station for filling each of the
8 syringes with a predetermined dose of a medicament in the filling
9 station;

10 means along the path upstream of the filling station
11 for permanently marking the syringes in the marking station with
12 machine-readable data identifying the medicament to be put in the
13 empty syringe at the filling station;

14 means along the path downstream of the filling station
15 for scanning the syringes downstream of the marking station and
16 removing from the conveyor path any syringe whose data is not
17 readable and for removing from the conveyor path any syringe
18 whose data does not correspond to the medicament filled into the
19 syringe at the filling station.

1 13. The apparatus defined in claim 12 wherein the
2 means for scanning includes means for rotating the syringe about
3 their axes.

14. The apparatus defined in claim 12 wherein the scanning means is formed as a separate removable module.